Course: Metagenomics — credits: 10

Course code	BFVH23METAGEN
Name	Metagenomics
Study year	2026-2027
ECTS credits	10
Language	Dutch, with parts in English
Coordinator	M. Herber
Modes of delivery	Project-based learning
Assessments	Beroepsproduct - Other assessment Wetenschapscommunicatie - Other assessment

Learning outcomes

- Given a microbial metagenomics dataset, you will delve into the techniques and experimental design used to obtain it. You can ask relevant questions to and have a meaningful discussion with your client about the design and implementation of the analysis pipeline.
- You design, implement, document and evaluate a metagenomic analysis pipeline.
- Given a research (sub-)question, you select suitable applications for use in your pipeline. After examining the specifications of the tools and performing a benchmark analysis, you make a well-considered choice of tool.
- You carry out phylogenetic analyses, creating relevant visualisations. You can draw scientific conclusions and defend them.
- You interpret your analysis results in relation to current scientific knowledge and can communicate this effectively.
- You give scientific work talks and presentations and participate in discussions about your own and others' work.
- You communicate your results through (writing) a scientific publication and (making/designing) a poster.

DAS competencies

Competentie	**Niveau (I-IV)**
Onderzoeken	II a, b, d, f, g, h
Experimenteren	II a, b, c, d
Beheren	II a, b, c
Adviseren	I a, b, c, d
Instrueren | Begeleiden | Doceren | Coachen	I a
Projectmatig werken	II a, i, c, e, f
Zelfsturing	II a

Content

In the metagenomics module, based on a research question about a metagenomic research dataset, you will build your own analysis pipeline to answer this question. You determine the steps in your pipeline together with your client and supervisor.
You will write up the results you find in a short publication. As a class, we will work in a research group in which active knowledge sharing through publication discussions and working meetings play a role.
At the end of the project, you present your project results in front of a wide audience.

Included in programme(s)

Bio-Informatics

School(s)

Engineering, Life Sciences & ICT

share your talent. move the world.

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